AR 201-12549 624

ROBUST SUMMARY
ALKYL SULFIDE CATETGORY
CAS # 68515-88-8
GENETIC TOXICITY ELEMENTS: GENETIC TOXICITY IN VIVO

Test Substance	
CAS #	CAS# 68515-88-8
Chemical Name	Pentene, 2,4,4-trimethyl-, sulfurized
Remarks	97% purity This chemical is also referred to as trimethyl pentene derivative in the HERTG's Test Plan for Alkyl Sulfide Category. For more information on the chemical, see Section 2.0 "Chemical Description of Alkyl Sulfide Category" in HERTG's Test Plan for Alkyl Sulfide Category.
Method	
Method/Guideline followed	OECD 474
Test Type	Mammalian erythrocyte micronucleus test
GLP (Y/N)	Y
Year (Study Performed)	1988
Species	Mouse
Strain	B6C3F1
Sex	Male and female
Route of administration	Oral gavage
Doses/concentrations	5 gm/kg (limit dose)
Exposure Period	One dose, dose groups sacrificed after 18, 24 and 48 hours
Statistical methods	Group mean body weights, total polychromatic erythrocytes (PCEs), normochromatic erythrocytes (NMEs), PCEs with micronuclei, and NMEs with micronuclei were compared. For each animal, a minimum of 1000 PCEs were counted fore the presence of micronucleated PCEs. The frequency of micronucleated cells per animals was expressed as the number of micronucleated PCEs per 1000 PCEs counted The ration of PCEs/NMEs was also recorded. The data were analyzed for statistical significance on a binomial distribution, at a level of significance of 0.05, and using the table of Kastenbaum and Bowman (Mutation Res. 9:527-549, 1970).
Remarks field for test conditions	# of animals per dose: 5/sex/group Control groups and treatment: 5/sex negative control (mineral oil); 5/sex positive control (cyclophosphamide, 50 mg/kg intraperitoneal injection) Mice were approximately 12 weeks old and 17-31 grams at study initiation. Animals were observed daily and body weights were recorded after 18, 24 and 48 hours. Test material and negative control groups were sacrificed after18, 24 and 48 hours, whereas the positive control group was terminated after 24 hours.
Results	
Remarks	The frequency of PCEs with micronuclei ranged from 1.0 to 5.9/1000

	PCEs in negative control mice with groups means of 2.6, 3.0 and 2.4 PCEs for the three time points. These averages and group means were within were within the expected range based on published data on the performing laboratory historical controls. In contrast, male animals dosed with cyclophosphamide had 9.0 to 24.0 micronucleated PCEs/1000 PCEs, with a mean of 14.5 for the group. The average frequencies of micronucleated PCEs obtained from male animals receiving the test material after the three time periods were 5.1, 3.0 and 5.7/1000 PCEs. These group means were not significantly higher than the negative control values. The mean PCE/NME ratios in negative male group for the three time periods were 0.60, 0.60 and 0.69, respectively. The test material was not cytotoxic since the PCE/NME ratio at the three time points was 0.60, 0.59 and 0.66. The mean frequency of micronucleated PCEs/1000 PCEs for female mice was 1.9, 2.1 and 2.9, respectively. The average micronucleated PCEs value for the cyclophosphamide treated females was 20.5. Female mice treated with the test material were found to have mean micronucleated PCEs values of 1.1, 2.0 and 1.2 at the three time points, respectively. A comparison of the PCE/NME ratio between the negative control and test material treated female mice did not vary significantly.
Conclusions	The subject material was tested for its genotoxicity using mouse in vivo micronucleus screening assay in bone marrow. There was no significant increase in micronucleated PCEs in animals exposed to the test substance. Thus, the test material was negative in this assay.
Data Quality	Reliable without restrictions (Klimisch code)
References	This robust summary was prepared from an unpublished study by an individual member company of the HERTG (the underlying study contains confidential business information).
Other	Updated: 12-28-99